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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,462	10/21/2002	Shankara Bonthu Reddy	124611	4030

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EXAMINER

RAMIREZ, JOHN FERNANDO

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

NT

Office Action Summary	Application No. 10/065,462	Applicant(s) REDDY ET AL.	
	Examiner John F. Ramirez	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-13 and 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

After a review of applicant's remarks, all necessary changes to the claims have been entered. Accordingly, claims 5, 6, 14, 15 and 23-26 have been canceled.

Applicant's arguments with respect to claims 1-4, 9-13 and 18 have been considered but are moot in view of the new ground(s) of rejection. Therefore, upon further consideration, the following office action is provided in order to expedite the prosecution of this application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "substantially normally" in claims 1, 10, 19 and 20, is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Therefore, properly rejected as indefinite under 112 (2) *Ex parte Oetiker*, 23 USPQ 2d 641 (Bd. PA&I. 1992).

In relation to claims 2-4, 7-9, 11-13, 16-18, and 21-22 depend from claims 1, 10, 19 and 20 respectively, and as such, include the various steps thereof as discussed above.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 10, 19, and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "wherein in response to said averaging being averaging by said mean method" is considered to be new matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

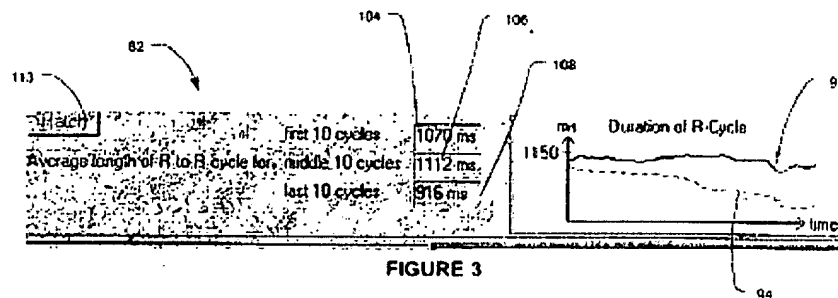
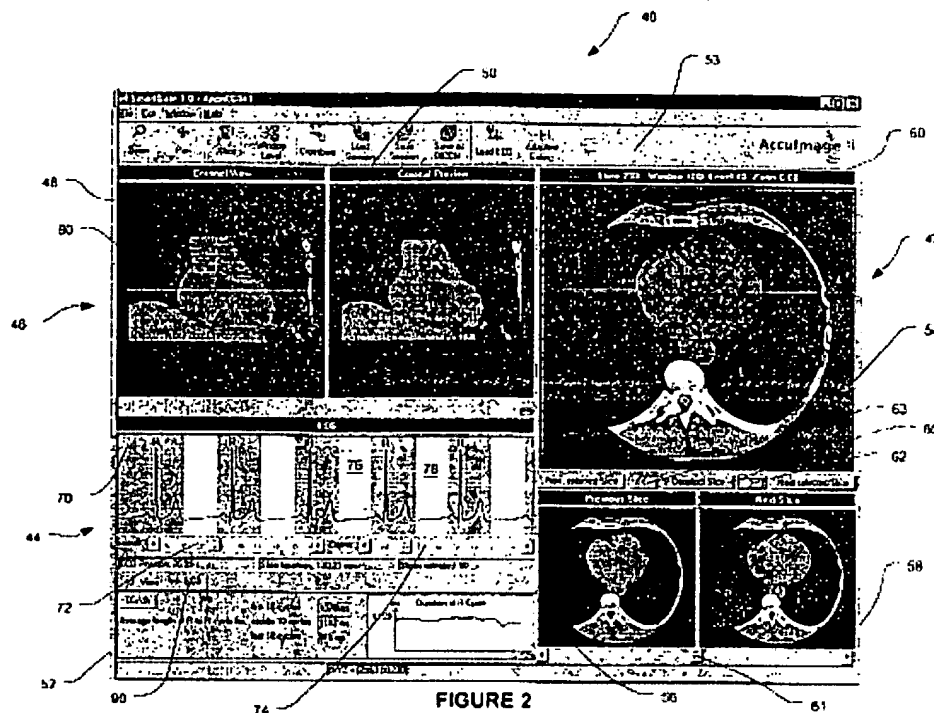
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9-13, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaufman et al. (US 2003/0016852).

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With respect to claims 1-4 and 9, Kaufman et al. teaches all the structures as set forth below. The method for calculating duration of a representative cardiac cycle using ECG waveform data (see Abstract), the method comprising: generating the ECG waveform data using an electrocardiogram device [0045]; evaluating the ECG data to validate a signal from the electrocardiogram device (see Abstract); detecting QRS complexes of ECG data using a detection function [0046]; analyzing underlying cardiac rhythm based on the detected QRS complexes [0049]; selecting an even number N of substantially normally shaped consecutive QRS complexes [0053] (see Fig. 3); computing an RR interval between the consecutive QRS complexes to yield N-1 intervals [0055]; calculating duration of the representative cardiac cycle by averaging at least a plurality of the N-1 intervals [0054], wherein the selecting an even number N of substantially normally shaped consecutive QRS complexes includes $N \geq 8$ [0053], validating the signal from the electrocardiogram device includes evaluating for artifacts (see Abstract), in which the analyzing underlying cardiac rhythm includes determination of a suitable heart rate [0048][0095], wherein the selecting an even number N of substantially normally shaped consecutive QRS complexes includes selecting consecutive QRS complexes if abnormally shaped QRS complexes are present [0052] would be inherently met by the disclosure.



With respect to claims 10-13 and 18, Kaufman et al. discloses a system and a medium encoded with a machine readable computer program code for associating ECG waveform data with medical imaging data using a data synchronization scheme, the medium including instructions for causing a controller to implement the method mentioned above (see Figures 2 and 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 13, 17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman et al. in view of Boyd et al. (7,020,511) and in further view of Lutz (US 5,832,051)

In reference to claims 8, 13, and 17, Kaufman et al. teaches all the limitations of the claimed subject matter except for mentioning specifically the steps of selecting a middle interval, which is indicative of the representative cardiac cycle so as to associate with a computed tomography imaging system scan (see Abstract).

Concerning claims 19-22, Kaufman et al. does not disclose the step for associating ECG waveform data with image data generated by an imaging system using a data synchronization scheme (see abstract).

However, the steps of calculating duration of the representative cardiac cycle by averaging using a median method, and selecting a middle interval, which is indicative of the representative cardiac cycle so as to associate with a computed tomography imaging system scan and associating ECG waveform data with image data generated by an imaging system using a data synchronization scheme are conventional in the art as evidenced by the teachings of Boyd et al. (US 7,020,511) and Lutz (US 5,832,051).

The Boyd et al. patent teaches the steps of calculating duration of the representative cardiac cycle by averaging using a median method, and selecting a middle interval, which is indicative of the representative cardiac cycle so as to associate with a computed tomography imaging system scan (see Figures 5-8).

The Lutz patent teaches the step for associating ECG waveform data with image data generated by an imaging system using a data synchronization scheme (see Abstract and Figures 2 and 3).

Based on the above observations, for a person of ordinary skill in the art, modifying the method disclosed by Kaufman et al., with the above discussed enhancements would have been considered obvious because such modifications would improve to select a trigger point along the cardiac cycle.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Ramirez whose telephone number is (571) 272-8685. The examiner can normally be reached on (Mon-Fri) 7:30 - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JFR
11/02/06


ELENI MANTIS MERCADER
SUPERVISORY PATENT EXAMINER